



16805 U.S.PTO
021304

Acoustically Activated Key Fob
Patent Application

22141 U.S.PTO
10/777593



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION FOR UNITED STATES LETTERS PATENT**

INVENTOR: William B. Young, Grand Rapids, MI 49544

TITLE: **ACOUSTICALLY ACTIVATED KEY FOB AND
METHOD**

ACOUSTICALLY ACTIVATED KEY FOB AND METHOD**BACKGROUND OF THE INVENTION**

5 Key fobs are commonplace in the automotive industry. They are small hand held devices that send commands, from remote distances, to automobiles. The commands sent to the automobile do such things as lock or unlock doors, open trunks or start the vehicle's engine. Present day key fobs are activated through the depression of mechanical switches. The present invention adds the
10 ability for these key functions to be activated through an acoustic signature such as clapping of one's hands, uttering the voice command or tapping on a the window of a vehicle.

Key fobs that are presently used can only be operated when they are in physical contact with user. Therefore, if the key fob were to be accidentally
15 locked within a vehicle and the owner/operator of the vehicle were to be on the outside of the vehicle, the key fob could do be used to command the vehicle to unlock its doors. If in the above scenario, an acoustically activated key fob were to be locked in the vehicle, the owner/operator of the vehicle could activate key fob commands by such things as tapping on the vehicle's window or uttering a
20 voice command.

SUMMARY OF THE INVENTION

According to a first aspect of the present invention, there is provided a
25 key fob, with an internal microphone, which can be activated by an acoustical signature.

BRIEF DESCRIPTION OF DRAWINGS

Preferred embodiments of the invention are explained below with reference to the accompanying drawings in which:

- 5 • Figure 1 shows a top view of an acoustically activated key fob according to a first embodiment of the present invention.
- Figure 2 shows a top view of an acoustically activated key fob according to a first embodiment of the present invention with its top cover removed to highlight the system's acoustic receiver (a microphone).

10 •

DESCRIPTION OF THE PREFERRED EMBODIMENTS

- Referring to Figure 1, there is depicted a top view of an acoustically activated key fob 1 according to a first embodiment of the present invention.
- Referring to Figure 2, there is depicted a top view of an acoustically activated key fob according to a first embodiment of the present invention with its top cover removed to highlight the system's acoustic receiver 2(a microphone).

WHAT IS CLAIMED IS:

- 20 1) A key fob that is activated by an acoustic signature.
- 2) A key fob that indicates the relative direction between the key fob and the host vehicle.